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10/573,221	03/24/2006	Stephan Simon	10191/4260	5010

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EXAMINER	
WOLDEMARIAM, AKILILU K	
ART UNIT	PAPER NUMBER
2624	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,221	SIMON ET AL.	
	Examiner	Art Unit	
	AKLILU k. WOLDEMARIAM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *24 March 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/10/2009, 05/27/2008, 03/24/2006, 02/10/2009*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's request for reconsideration of the non-final of the rejection of the last Office action that was sent 02/04/2009 and, therefore, the non-final Office action is withdrawn.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 05/27/2008 was filed after the mailing date of 05/27/2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Remark: 101 machine test analysis or Transformation test analysis

I. Claim 11 does not have a particular machine in claim limitations such as a "computer" or "processor" or "image processor", therefore, claim has failed to pass the machine test analysis.

II. Claim 11 does not have (a) physical or chemical transformation of a physical object, (b) no modification to data or signal; (c) claim 1 has display in line 1, 4 and 7; (d) Modification and or transformation not meaningful or significant. Therefore claim 1 has failed to pass transformation test analysis.

Claim 11 requires 35 U.S.C 101 rejections because claim11 does not pass either machine test analysis or Transformation test analysis.

4. Claims 11-21 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit[1], relying upon Supreme Court precedent[2], has indicated that a statutory "process" under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the "machine or transformation test", whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590"). While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

6. *Claims 11-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Simon et al., "Simon" (U.S. Publication number 2006/0041381A1).*

Regarding claim 11, *Simon discloses* a method for evaluation and stabilization over time of classification results from a classification method which proceeds in computer-assisted fashion (*see paragraph [0034] object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects),* the method comprising:

sensing objects to be classified using sensors over a period of time *(see paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object and paragraph [0054] the initial states, made available by way of real- time sensor information, of the first and further objects);*

repeatedly classifying the objects using specific quality parameters for each object class *(see [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object);*

increasing a value of a confidence parameter calculated from the quality parameters if a subsequent classification confirms a result of a previous classification;

decreasing the value of the confidence parameter if a subsequent classification does not confirm the result of a previous classification *(see paragraph [0004] classification of object and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object);*

and generating a final classification result including the confidence parameters that have been increased or decreased in value *(see paragraph [0034] Object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects. Those objects are then, in the next block 30, tracked using data from the object classification and object detection systems and paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 12, *Simon discloses* the method as recited in claim 11, wherein the increasing of the value is performed as a function of an absolute quality of the confidence parameter *(see paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and*

hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).

Regarding claim 13, *Simon discloses* the method as recited in claim 11, wherein the decreasing in the value is performed as a function of an absolute quality of the confidence parameter *(see paragraph [0034] Object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects. Those objects are then, in the next block 30, tracked using data from the object classification and object detection systems and paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 14, *Simon discloses* the method as recited in claim 11, wherein an absolute quality of respective individual results of the classification method is included in at least one of the increase in the value of the respective confidence parameters, and the decrease in the value of the respective confidence parameter, in weighted fashion with reference to individual object classes (*see paragraph [0004] classification and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and*

hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).

Regarding claim 15, *Simon discloses* the method as recited in claim 11, further comprising: limiting a permissible value range for the confidence parameters increased or decreased in value *(see paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 16, *Simon discloses* the method as recited in claim 11, further comprising: evaluative analyzing the calculated confidence parameter to determine a final, detailed classification result (*see paragraph [0004] classification and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 17, *Simon discloses* the method as recited in claim 16, further comprising: evaluating an alternation of the classification results between specific object classes as a classification into a higher-order class than those object classes *(see paragraph [0004] From an optional classification function, the method according to the present invention receives the object types e.g., pedestrian, bicyclist, small motor*

vehicle, medium motor vehicle, large motor vehicle or truck--in order to determine, using that information and a predefined dynamic vehicle model (one for each specific vehicle class, and optionally as a function of a vehicle behavior model), the collision probability and hazard probability. Each object has a dynamic model of this kind assigned to it, so that the future behavior of the object can be optimally estimated in consideration of current parameters such as speed and acceleration).

Regarding claim 18, *Simon discloses* the method as recited in claim 16, further comprising: evaluating an alternation of the classification results between dissimilar object classes as a rejection of a classification of the object *(see paragraph [0004] From an optional classification function, the method according to the present invention receives the object types e.g., pedestrian, bicyclist, small motor vehicle, medium motor vehicle, large motor vehicle or truck--in order to determine, using that information and a predefined dynamic vehicle model (one for each specific vehicle class, and optionally as a function of a vehicle behavior model), the collision probability and hazard probability. Each object has a dynamic model of this kind assigned to it, so that the future behavior of the object can be optimally estimated in consideration of current parameters such as speed and acceleration).*

Regarding claim 19, *Simon discloses* the method as recited in claim 11, further comprising: evaluating classification results of the classification method for objects in surroundings of a vehicle *(see paragraph [0004] classification and [0010] This means that the other objects for example pedestrians, bicyclists, and other vehicles--surrounding the first object--for example a vehicle--are sensed using a sensor suite*

such as a pre-crash sensor suite, so that they can be classified and have motion parameters assigned to them. The own-vehicle values are retrieved from internal data sources, i.e. the vehicle type, current speed, direction, and a vehicle behavior model. Such sources are thus internal sensors and memories).

Regarding claim 20, *Simon discloses* a computer-assisted vehicle information system, comprising: connection interfaces to vehicle sensor devices for sensing objects in surroundings of a vehicle *(see paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object and paragraph [0054] the initial states, made available by way of real- time sensor information, of the first and further objects);* and

a control circuit configured to analyze and classify the sensed objects the control circuit configured to perform the following: sensing objects to be classified using sensors over a period of time *(see paragraph [0004] classification and [0010] This means that the other objects for example pedestrians, bicyclists, and other vehicles--surrounding the first object--for example a vehicle--are sensed using a sensor suite such as a pre-crash sensor suite, so that they can be classified and have motion parameters assigned to them. The own-vehicle values are retrieved from internal data sources, i.e. the vehicle type, current speed, direction, and a vehicle behavior model. Such sources are thus internal sensors and memories);*

repeatedly classifying the objects using specific quality parameters for each object class *(see [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object);*

increasing a value of a confidence parameter calculated from the quality parameters if a subsequent classification confirms a result of a previous classification; decreasing the value of the confidence parameter if a subsequent classification does not confirm the result of a previous classification *(see paragraph [0004] classification of object and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object);* and

generating a final classification result including the confidence parameters that have been increased or decreased in value *(see paragraph [0034] Object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects. Those objects are then, in the next block 30, tracked using data from the object classification and object detection systems and paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input*

parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).

Regarding claim 21, *Simon discloses* the vehicle information system as recited in claim 20, further comprising: interfaces connected to actuator devices on the vehicle *(see Paragraph [0012] and [0033] Impact sensors 22 supply a signal that is used in block 27 to determine the accident risk and the activation of the actuator suite. Vehicle dynamics sensors 23 are used to track the motion of the own vehicle in block 31 and paragraph [0035]).*

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKLILU k. WOLDEMARIAM whose telephone number is (571)270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Samir Ahmed
Examiner
Art Unit 2624

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